

SYSTEM INTEGRATION AND TEST QUALITY ASSURANCE CHECKLISTS

Version 1.0

December 6, 2000

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FOREWORD

This document was developed to provide any project developing software with a template for generating System Integration and Testing (SI&T) Quality Assurance (QA) checklists. These checklists should be supplemented with project-specific information to produce a QA report that accurately enables management, support, and technical personnel to assess the quality of the testing. QA checklists are a record of QA activities performed during Software Test Plan (STP) development, Software Test Description (STD) development, Software Unit (SU)/Computer Software Configuration Item (CSCI) qualification testing, Integration Testing, Performance Testing, and system Qualification Testing.

This document describes the elements to be considered when completing SI&T QA checklists. Separate checklists are provided to be completed during distinct phases of the SI&T process.

Department of Education, Office of Student Financial Assistance (SFA), will maintain and keep this SI&T QA checklist document. Users of this document may report deficiencies and or corrections using the format provided in the Document Change Request (DCR) form. Department of Education, SFA, collects and processes DCR information as inputs for improvements to the SI&T QA Checklist document.

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DOCUMENT CHANGE REQUEST (DCR)

DOCUMENT: System Integration and Testing Quality Assurance Checklists, Version 1.0

SFA TRACKING NUMBER: _____

NAME OF SUBMITTING ORGANIZATION: _____

ORGANIZATION CONTACT: _____ TELEPHONE: _____

MAILING ADDRESS: _____

DATE: _____ SHORT TITLE: _____

CHANGE LOCATION: _____

(Use section #, figure #, table #, etc. Include name of specific checklist)

PROPOSED CHANGE:

REASON FOR CHANGE:

.....
Note: For the Department of Education, Office of Student Financial Assistance (SFA), to take appropriate action on a change request, please provide a clear description of the recommended change along with supporting reason.

Send to: Department of Education, Office of Student Financial Assistance, 400 Maryland Avenue SW, Washington DC 20202 or Fax to: (202) 205-8532.

DCR Form December 2000

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RECORD OF CHANGES

CHANGE NUMBER	DATE	FIGURE, TABLE, OR PARAGRAPH NUMBER	A/M/D*	TITLE OR BRIEF DESCRIPTION	CHANGE REQUEST NUMBER

* **A** = ADD
 M = MODIFY
 D = DELETE

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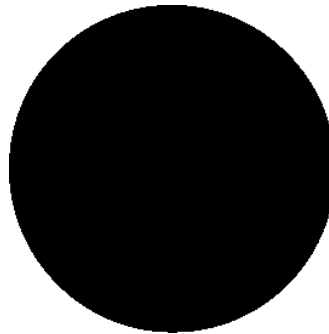
DOCUMENT CONVENTIONS

[Text]	Replace text.
<i>text in italics</i>	Notes or instructions to the author.

NOTE: *The FOLLOWING page is the start of the SI&T QA Checklist document. It begins with a project or system title and an approval page. Delete this page and preceding pages in the final format of your project or system document. Do not forget to update the document header to reflect the submission date and the document configuration identifier for completed checklists for the project or system.*

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**System Integration and Testing Quality Assurance Checklists
For
[Project Name]**



[Submission Date]

**Prepared for:
Department of Education
Student Financial Assistance
400 Maryland Avenue, SW
Washington DC 20202**

**Prepared by:
[Organization Name and Address]**

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SI&T Quality Assurance Checklists For [PROJECT NAME]

The undersigned certify they have reviewed the System Integration and Testing Quality Assurance Checklists. The deliverable meets requirements, meets requirements with concerns, or does not meet requirements. If the deliverable meets requirements with concerns, or does not meet requirements, an explanation and necessary documentation must be provided.

Software Project Manager Signature

Date _____

- ☐ Meets Requirements
 - ☐ Meets Requirements with Concerns
 - ☐ Does Not Meet Requirements
- _____
- _____

Integration Testing Team Manager Signature

Date _____

- ☐ Meets Requirements
 - ☐ Meets Requirements with Concerns
 - ☐ Does Not Meet Requirements
- _____
- _____

Integration Testing Team Leader Signature

Date _____

- ☐ Meets Requirements
 - ☐ Meets Requirements with Concerns
 - ☐ Does Not Meet Requirements
- _____
- _____

[Additional signatures may be appended]

RECORD OF CHANGES

Version Number	Date	Description
1.0	December 2000	Original release of document

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1. QUALITY ASSURANCE CHECKLISTS

This section will be completed for each SI&T test phase defined in the following checklists.

1.1 System Test Plan Development Quality Assurance Checklist

The name of the reviewer performing the QA activity and the date the activity was completed will be inserted for each item listed in the table.

Item	Activity	QA Group Reviewer	Date Completed
STP 1	Verify software requirements documented in the Software Requirements Document (SRD).		
STP 2	Verify that test case(s), test classes (e.g., path analysis, stress, capacity, and timing), and test methodologies (e.g., static, dynamic) are defined.		
STP 3	Verify that testing environment(s) are identified.		
STP 4	Verify plans for implementation and controlling of the test environment are defined.		
STP 5	Verify estimates for the number of personnel and other resources required for implementing the testing process and objectives are complete.		
STP 6	Verify that a project test leader and the necessary support personnel to prepare, conduct, analyze, and report the results of testing are assigned.		
STP 7	Verify that a general schedule for tests is defined. Ensure time for problem correction and re-testing is included.		
STP 8	Verify creation of the System Test Plan (STP) in accordance with assigned documentation standard instructions.		
STP 9	Participate in peer review of draft STP.		
STP 10	Verify draft STP revised to correct discrepancies and incorporate approved changes.		
STP 11	Verify STP is approved and under Configuration Management (CM) control.		

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1.2 System Test Description Development Quality Assurance Checklist

The name of the reviewer performing the QA activity and the date the activity was completed will be inserted for each item listed in the table.

Item	Activity	QA Group Reviewer	Date Completed
STD 1	Verify that the Software Requirements Document (SRD) contains corrected discrepancies and approved changes.		
STD 2	Verify that, the required individual test cases have been identified for each test phase.		
STD 3	Verify that test case procedures are written to support each test case.		
STD 4	Verify that, the inputs (stimuli) required to fulfill the test purpose are defined for each test case.		
STD 5	Verify that test case procedures, including inputs and expected results, are documented.		
STD 6	Verify that the expected result(s) (i.e., output from the test in response to input) that will serve as the test case Pass/Fail criteria are defined for each test case.		
STD 7	Verify that data insertion and extraction methods to/from test has been defined. Verify that points of data input/output and amount of data needed are identified.		
STD 8	Verify that evaluation criteria for test result(s) analysis are defined. Verify that ranges of values, capacities, and times for testing Pass/Fail status are defined.		
STD 9	Verify that SRD performance requirements to specific test case(s) are traced. Verify the completeness of performance requirement(s).		
STD 10	Verify identification of test environment configuration, interface drivers, database loaders, controllers/monitors, other test tools, etc., to support test case purpose.		
STD 11	Verify that draft System Test Descriptions (STD) are prepared for review.		
STD 12	Participate in peer review.		

[Project Name] SI&T QA Checklists

Version [x.y]

[Submission Date]

Item	Activity	QA Group Reviewer	Date Completed
STD 13	Verify draft STD has been prepared with corrected discrepancies and approved changes.		
STD 14	Verify that STD is under Configuration Management (CM) control.		

1.3 Software Unit Test Phase / CSCI Qualification Testing Quality Assurance Checklist

The name of the reviewer performing the QA activity and the date the activity was completed will be inserted for each item listed in the table.

Item	Activity	QA Group Reviewer	Date Completed
SU/CSCI 1	Verify version-specific test results are documented in the System Development File (SDF).		
SU/CSCI 2	Verify test logs are complete.		
SU/CSCI 3	Participate in Test Readiness Review (TRR) for Integration Test phase.		
SU/CSCI 4	Verify that Computer Software Configuration Item (CSCI) module and SDF is under Configuration Management (CM) control.		

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1.4 Integration Test Phase Quality Assurance Checklist

The name of the reviewer performing the QA activity and the date the activity was completed will be inserted for each item listed in the table.

Item	Activity	QA Group Reviewer	Date Completed
IT 1	Verify the test case procedure(s) are conducted to support test case(s) and test results are recorded as they are observed.		
IT 2	Verify that any required post-test analysis or data reduction to determine Pass/Fail criteria as specified in the test case(s) are performed.		
IT 3	Verify that the integration System Test Report (STR) is reviewed and approved.		
IT 4	Verify System Problem Reports (SPRs) are submitted for all detected problems.		
IT 5	Participate in Test Readiness Review (TRR) for Performance Test phase.		

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1.5 Performance Test Phase Quality Assurance Checklist

The name of the reviewer performing the QA activity and the date the activity was completed will be inserted for each item listed in the table.

Item	Activity	QA Group Reviewer	Date Completed
PT 1	Verify test case procedure(s) are conducted to support test case(s) and test results are recorded as they are observed.		
PT 2	Verify that any required post-test analysis or data reduction to determine Pass/Fail criteria as specified in the test case(s) are performed.		
PT 3	Verify that the performance System Test Report (STR) is reviewed and approved.		
PT 4	Verify System Problem Report (SPR) have been submitted for all detected problems.		
PT 5	Participate in Test Readiness Review (TRR) for System Qualification Test (SQT) phase.		

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1.6 System Qualification Test Phase Quality Assurance Checklist

The name of the reviewer performing the QA activity and the date the activity was completed will be inserted for each item listed in the table.

Item	Activity	QA Group Reviewer	Date Completed
SQT 1	Verify the test case procedure(s) is conducted to support test case(s) and test results are recorded as they are observed.		
SQT 2	Verify that required post-test analysis or data reduction to determine Pass/Fail criteria, as specified in the test case(s), is performed.		
SQT 3	Verify that the Final System Test Report (STR) is reviewed and approved.		
SQT 4	Verify System Problem Report (SPR) is submitted for all detected problems.		

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1.7 Acronyms

LIST OF ACRONYMS	
CM	Configuration Management
CSCI	Computer Software Configuration Item
DCR	Document Change Request
QA	Quality Assurance
SDF	Software Development File
SFA	Office of Student Financial Assistance
SI&T	System Integration & Test
SPR	System Problem Report
SQT	System Qualification Test
SRD	Software Requirements Document
STD	System Test Descriptions
STP	System Test Plan
STR	System Test Report
TRR	Test Readiness Review

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APPENDIX A. [ADDITIONAL DATA]

Appendixes may be used to provide information published separately for convenience in document maintenance (e.g., charts, classified data). Appendixes may be bound as separate documents for ease in handling. Appendixes shall be lettered alphabetically (A, B, etc.).

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